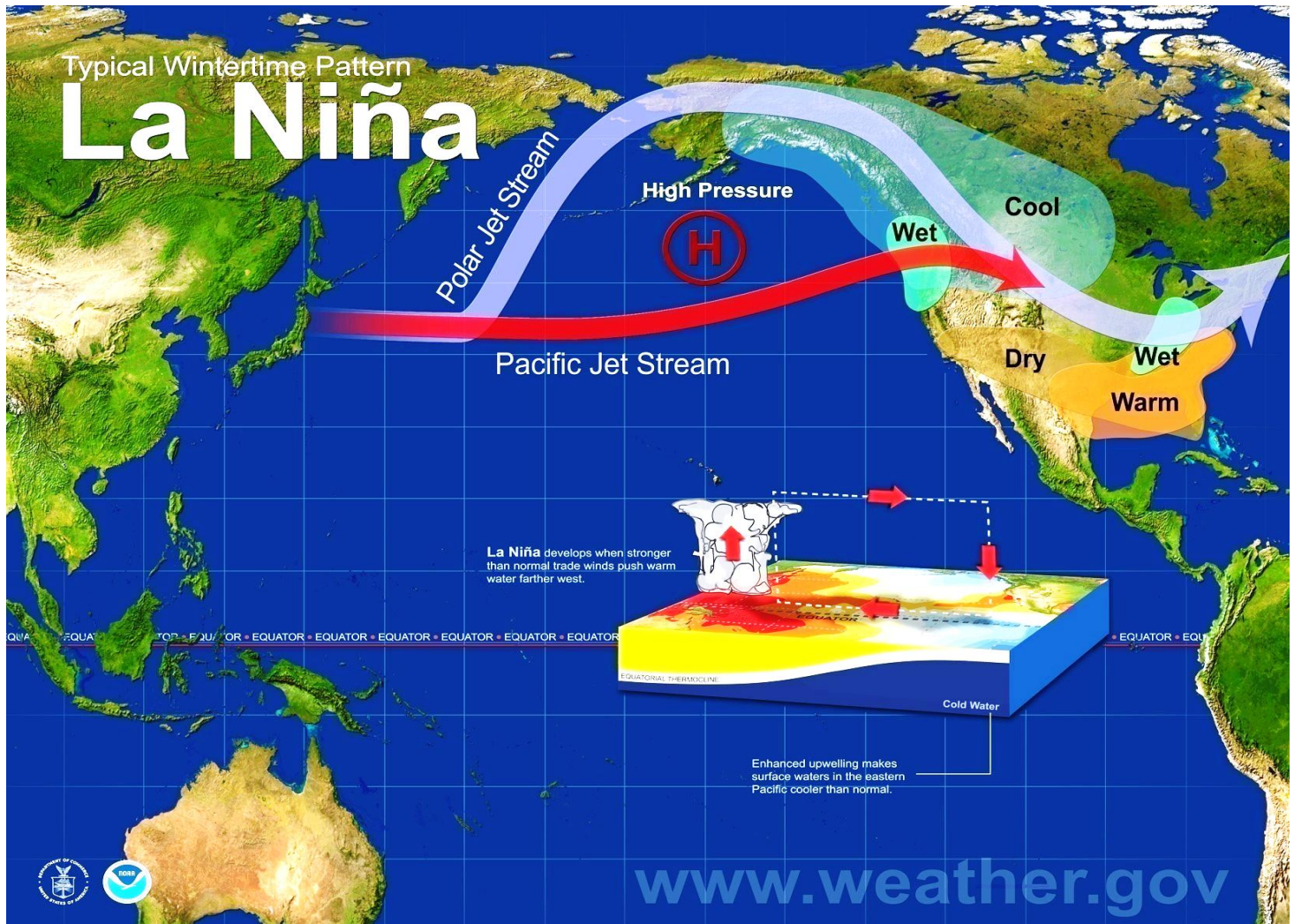


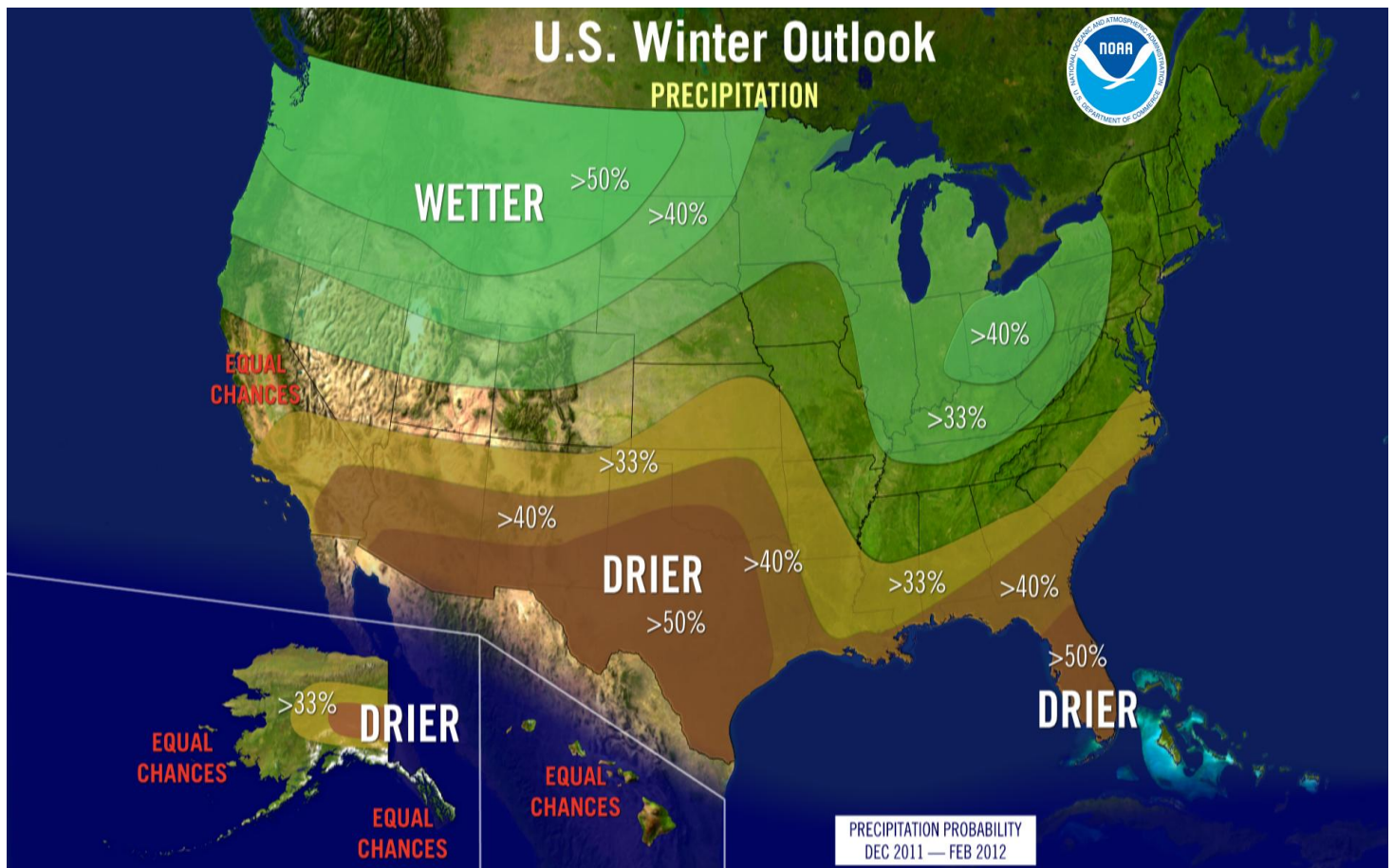
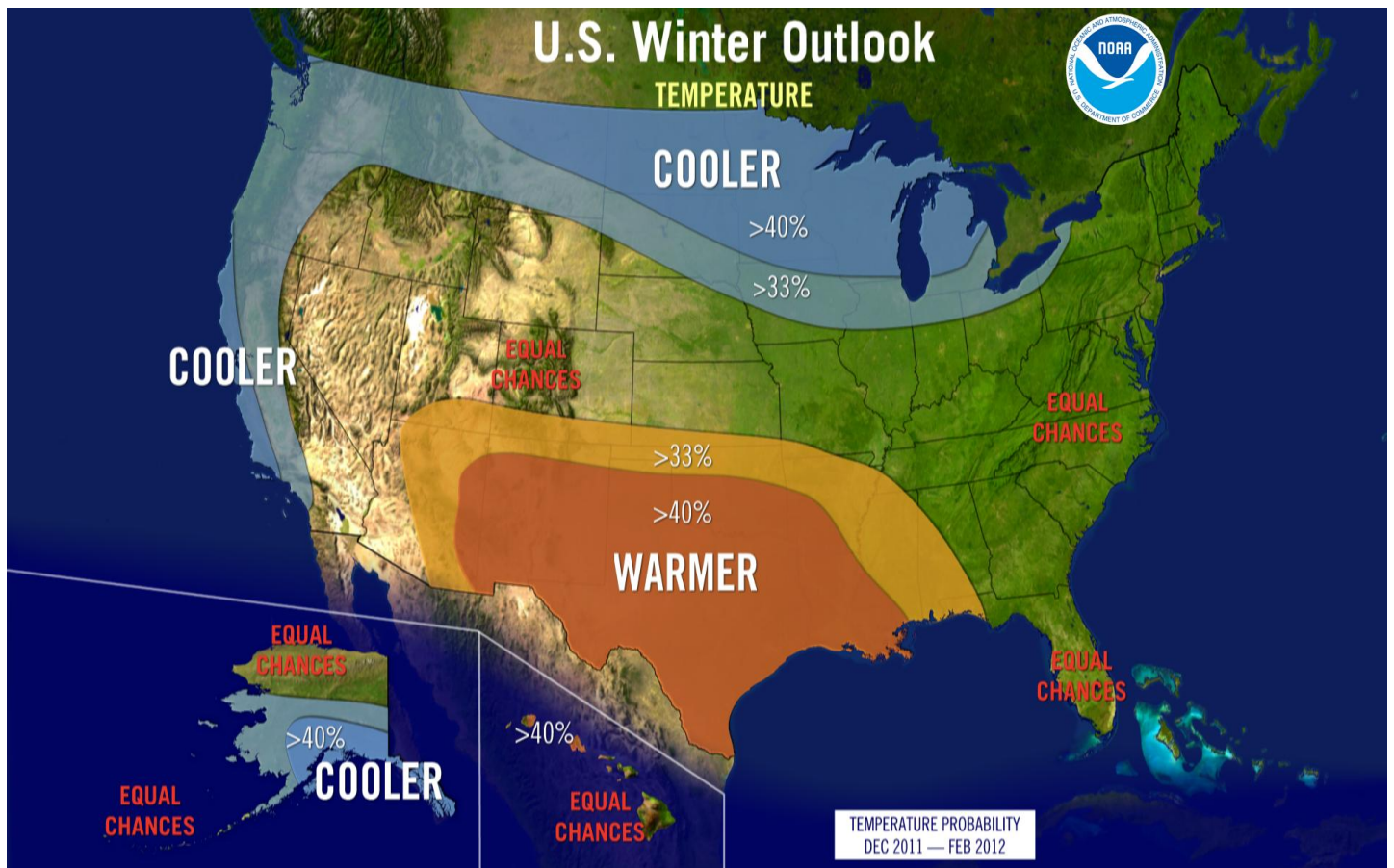
2011/2012 Winter Outlook for South Central and Southeast Colorado

The Climate Prediction Center (CPC) of NOAA's National Weather Service has announced the re-emergence of La Nina conditions across the eastern equatorial Pacific, with the expectation that these conditions will strengthen and persist through the Northern Hemisphere Winter Season, before diminishing through the spring of 2012. La Nina is the periodic cooling of ocean waters in the east-central equatorial Pacific, which can have an impact on the weather patterns across the globe.



The above graphic illustrates a northern shift in the polar jet stream and storm track, which are typical effects of La Nina conditions through the winter season across North America.

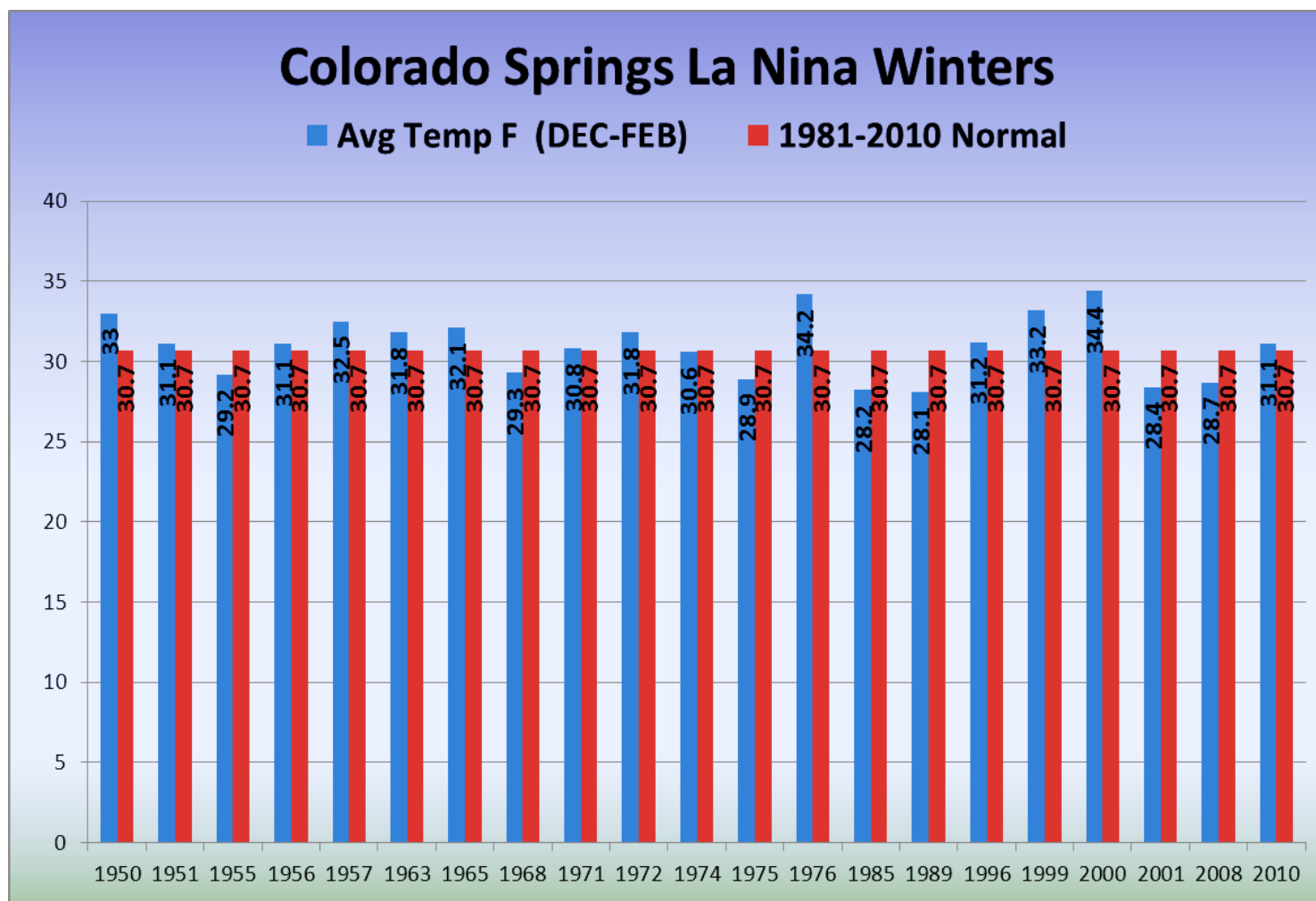
The following graphics depict CPC's Temperature and Precipitation Outlook for December 2011 through February 2012 which indicates the potential for warmer than normal conditions for southwestern and south central portions of the contiguous United States, along with a tilt to drier than normal conditions extending from the Desert Southwest through the Southern High Plains and southeastern US. The potential for cooler than normal conditions will be possible across the West Coast and Northern Tier of States through the Upper Great Lakes with a tilt to wetter than normal conditions for parts of the Pacific Northwest, the Northern Rockies and the Upper Great Lakes through the Ohio Valley. These projections are based on the expected strengthening and persistence of La Nina conditions, along with trends surmised within climate data over the past 30 years.



What do the above graphics mean for the upcoming winter season across south central and southeast Colorado?

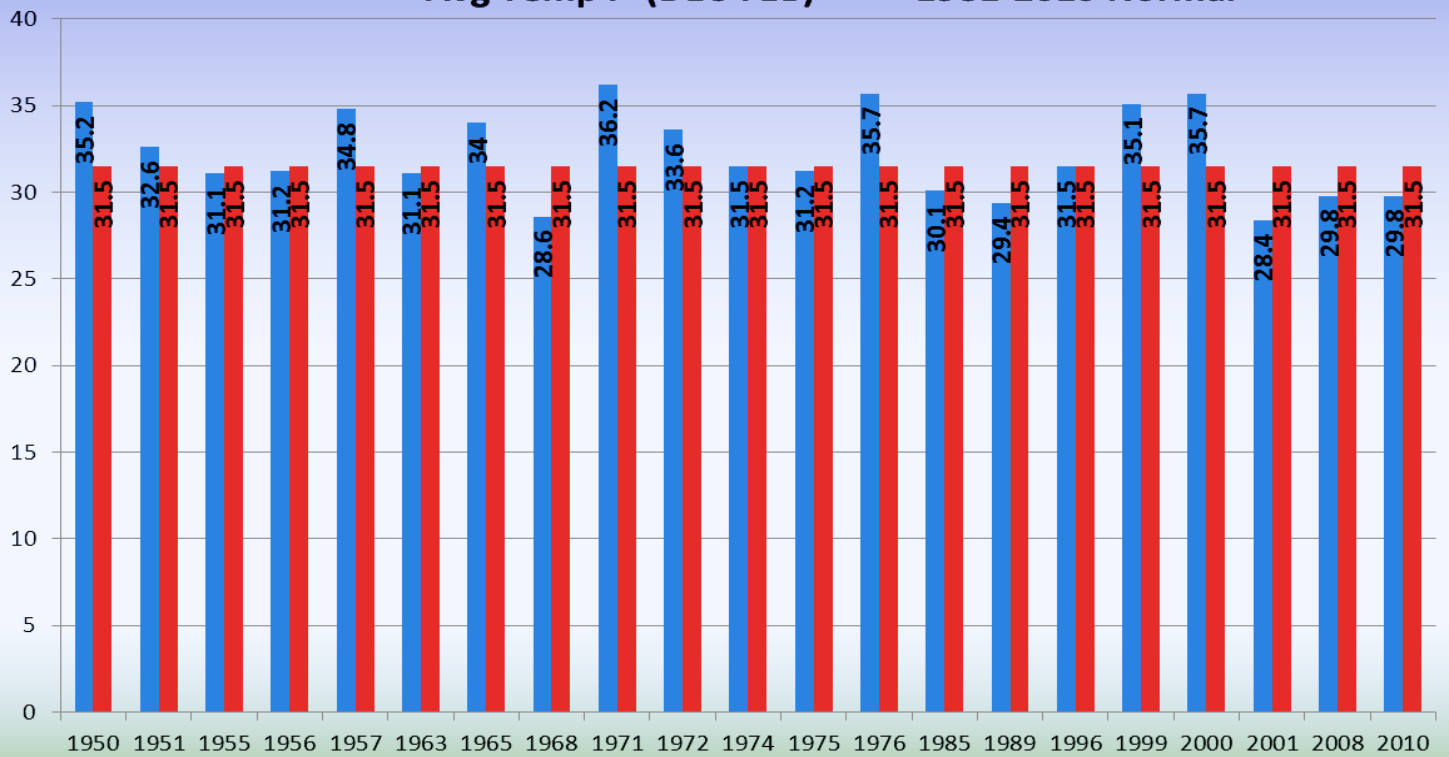
In general terms, there is a slight tilt that the average temperature for the winter months of December 2011 through February 2012 will be above the 30 year climatological norm with lesser chances that the average temperature through the entire winter will be below normal. The effects of La Nina conditions with respect to winter precipitation can vary widely across south central and southeast Colorado, with the above forecast giving a 33.3 percent chance of above, below or near normal precipitation, respectively, for most of Colorado, save a slightly higher chance of above normal precipitation across the north central mountains and a slightly higher chance of below normal precipitation for extreme southeastern Colorado.

The following graphics will help to shed some more light on La Nina and its effects on winter weather across south central and southeast Colorado. The data used in the graphics was collected from the official observation sites for Colorado Springs, Pueblo and Alamosa and SNOTEL sites during the previous weak to strong La Nina episodes through the winters of 1949-50, 1950-51, 1954-55, 1955-56, 1956-57, 1962-63, 1964-65, 1967-68, 1970-71, 1971-72, 1973-74, 1974-75, 1975-76, 1984-85, 1988-89, 1995-96, 1998-99, 1999-2000, 2000-01, 2007-08 and 2010-11.



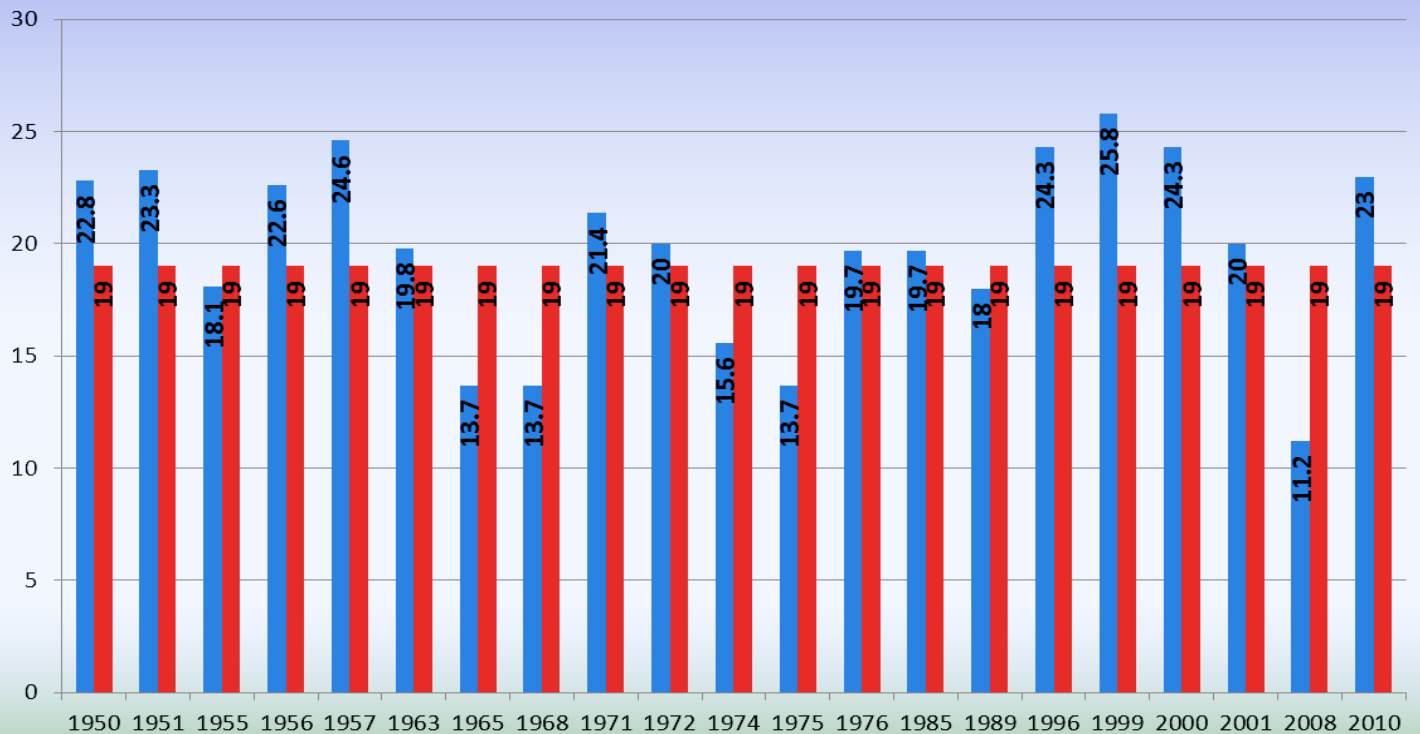
Pueblo La Nina Winters

■ Avg Temp F (DEC-FEB) ■ 1981-2010 Normal



Alamosa La Nina Winters

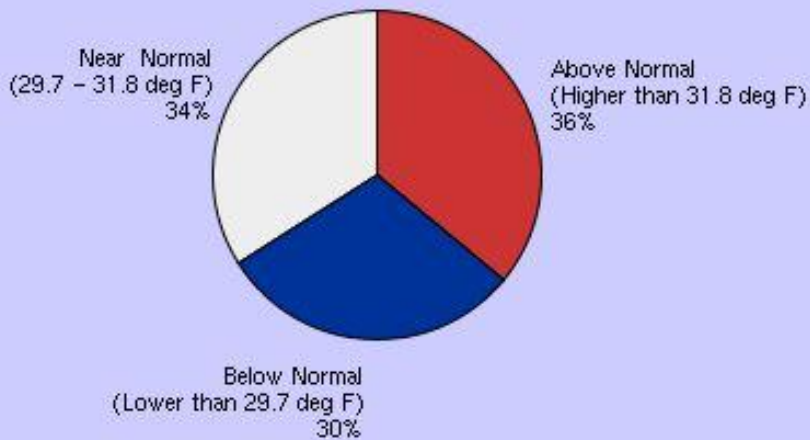
■ Avg Temp F (DEC-FEB) ■ 1981-2010 Normal



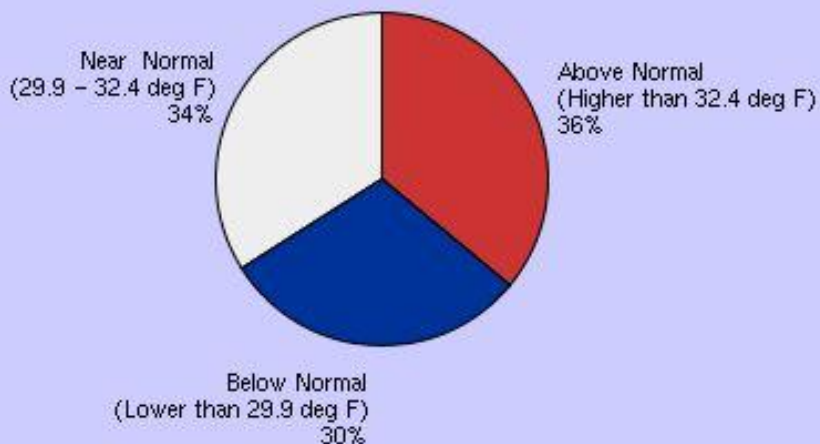
The above graphics indicate a definite trend of above average temperatures through the winter season with between 45 and 65 percent of La Nina years seeing warmer than normal conditions at Colorado Springs, Pueblo and Alamosa.

Specific average temperature forecasts from the Climate Prediction Center (CPC) for Colorado Springs, Pueblo and Alamosa are as follows:

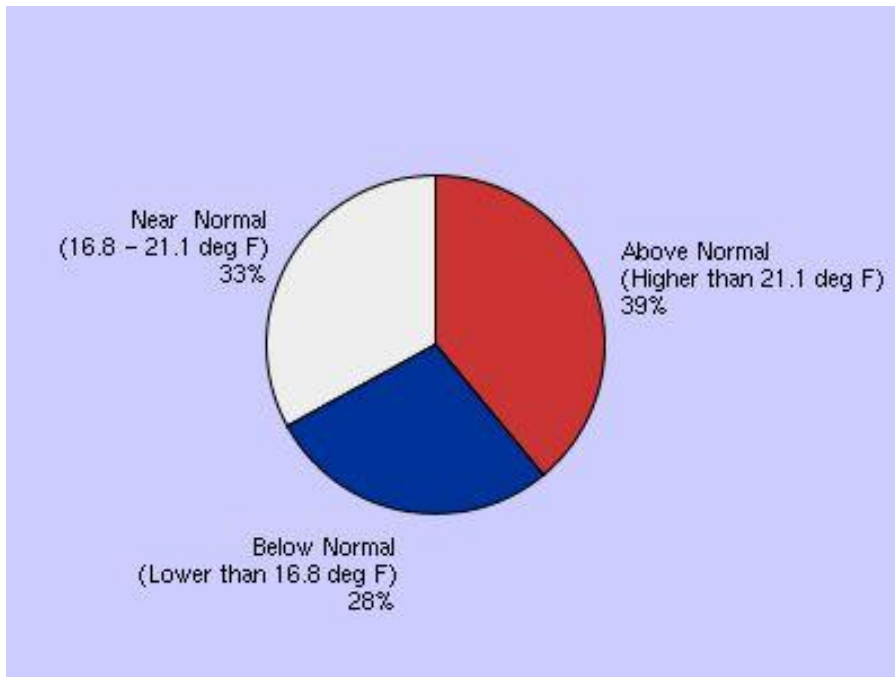
Colorado Springs Temperature Outlook: Dec-Jan-Feb 2011-2012



Pueblo Temperature Outlook: Dec-Jan-Feb 2011-2012



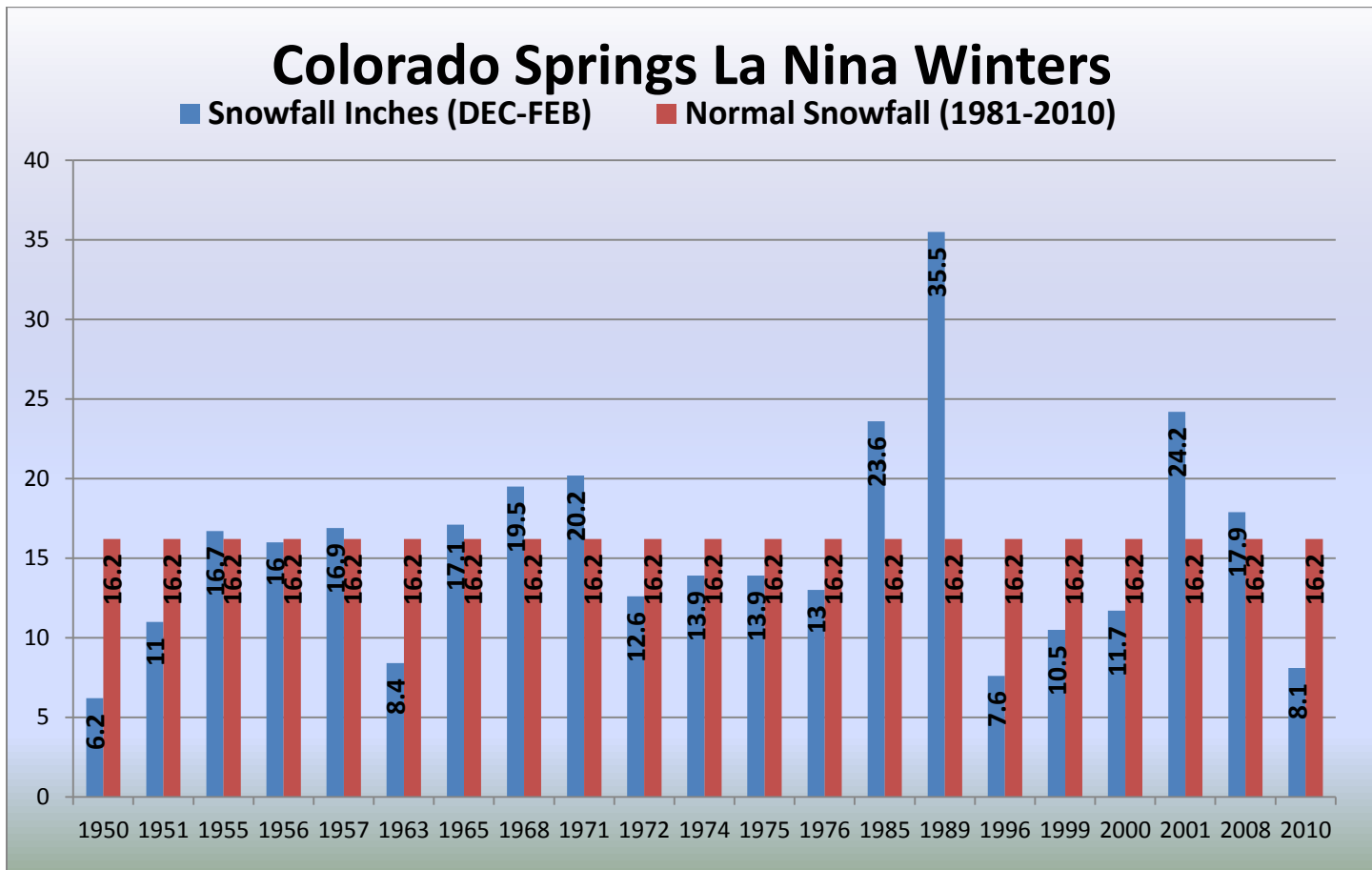
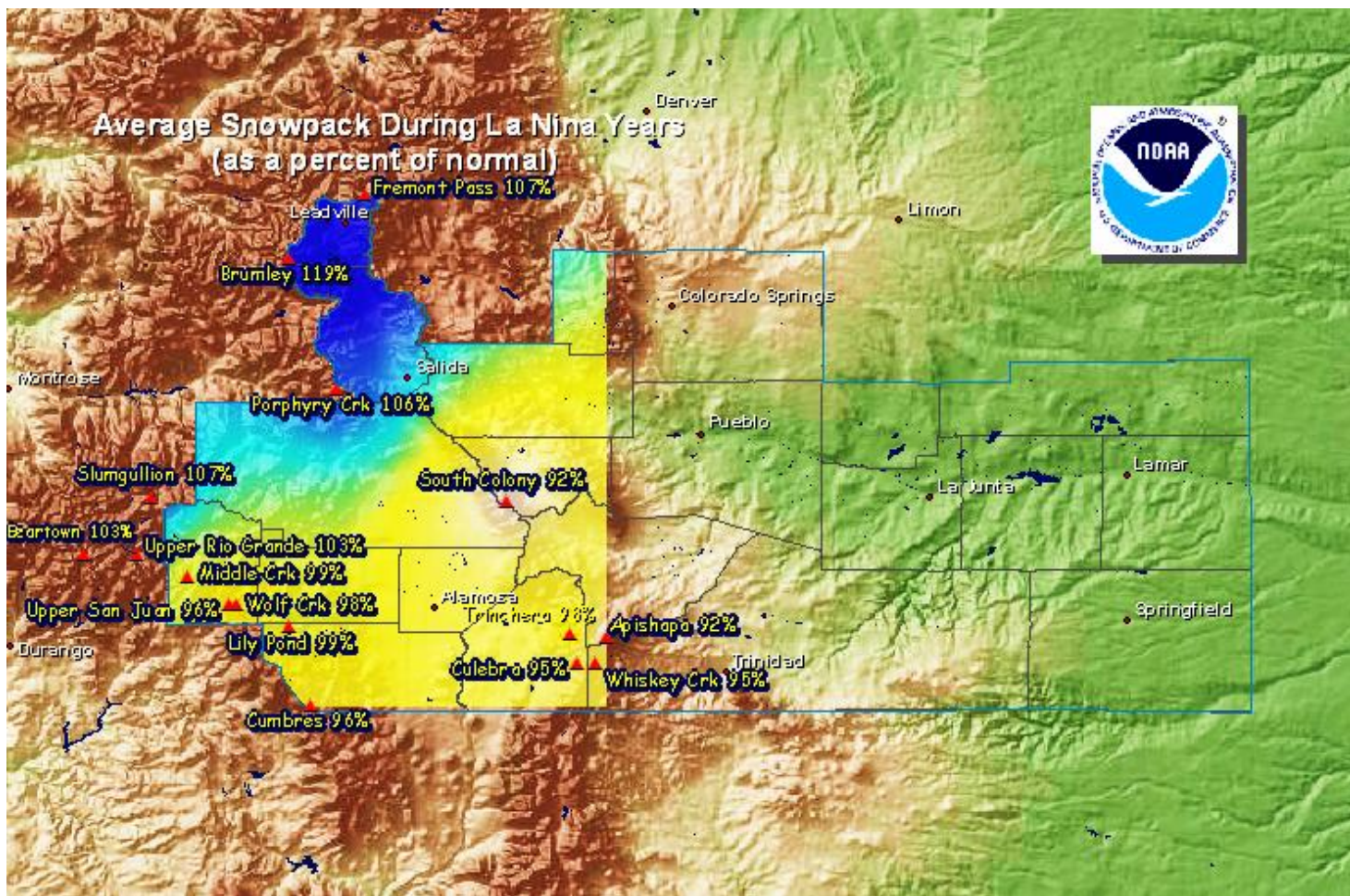
Alamosa Temperature Outlook: Dec-Jan-Feb 2011-2012



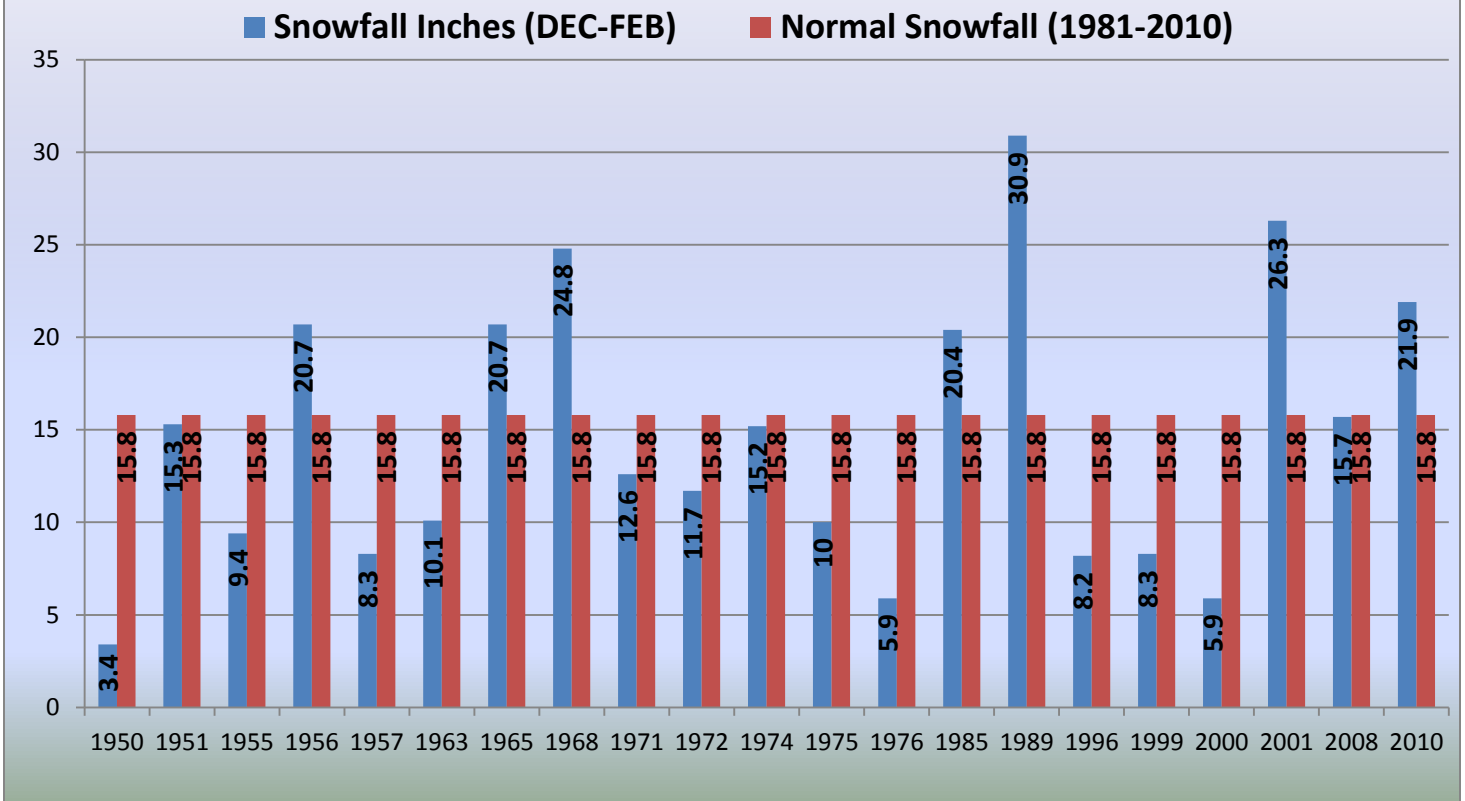
Temperature forecasts for many areas across south central and southeast Colorado, which includes but is not limited to Leadville (Sugarloaf Reservoir), Buena Vista, Salida, Blanca, Saguache, Westcliffe, Trinidad, Eads, La Junta, Lamar and Springfield, can be found at the following web site:

http://www.weather.gov/climate/calendar_outlook.php?wfo=pub&site=56740

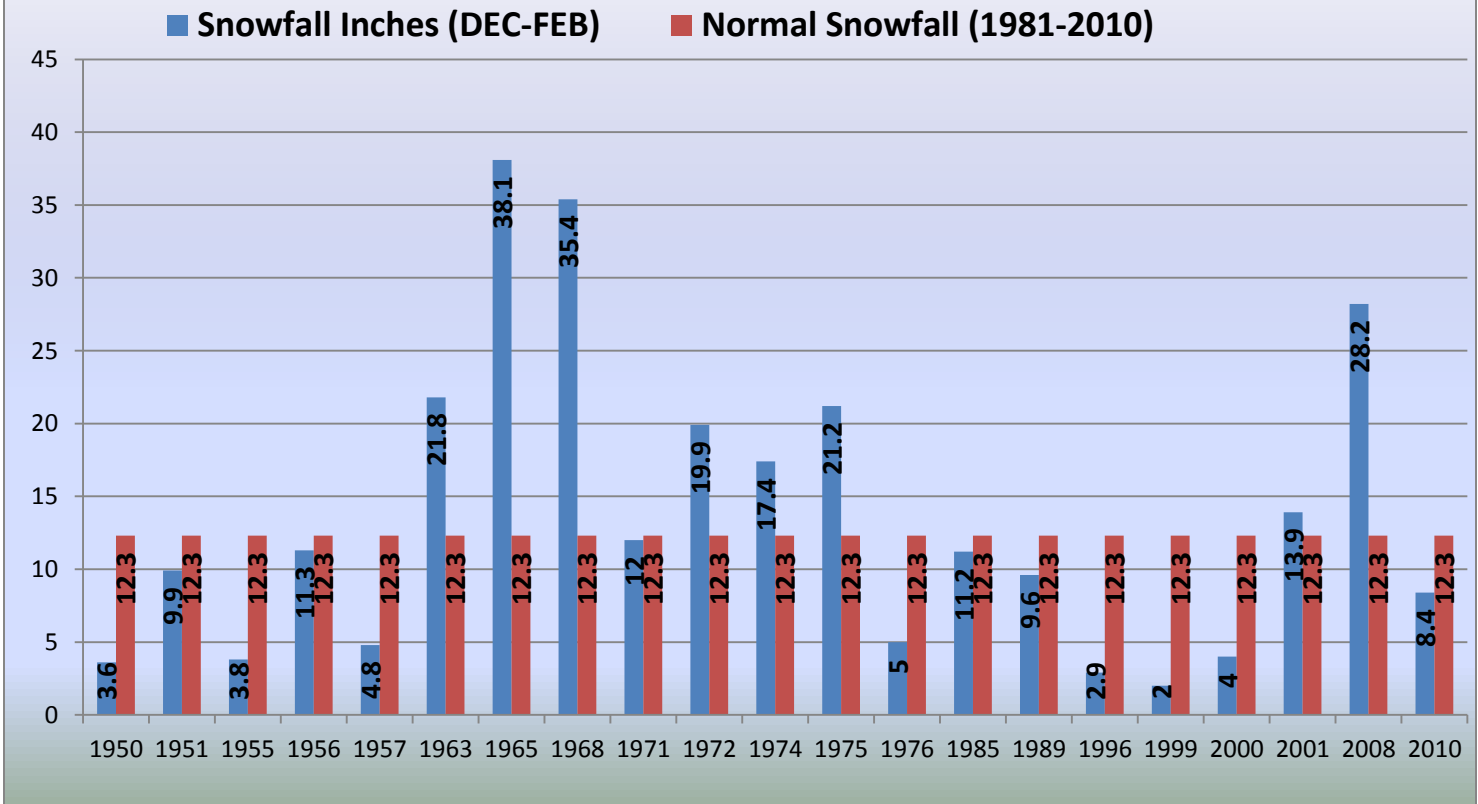
The following graphics will highlight winter snowfall across south central and southeast Colorado during previous La Nina Years of 1949-50, 1950-51, 1954-55, 1955-56, 1956-57, 1962-63, 1964-65, 1967-68, 1970-71, 1971-72, 1973-74, 1974-75, 1975-76, 1984-85, 1988-89, 1995-96, 1998-99, 1999-2000, 2000-01, 2007-08 and 2010-11.



Pueblo La Nina Winters



Alamosa La Nina Winters



The data collected from SNOTEL sites indicate a general trend of above average snowpack across the upper Arkansas River basin in La Nina years. A trend of near or slightly below average snowpack can also be seen across the Upper Rio Grande and San Juan River basins, with generally below average snowpack across the Eastern Mountains in La Nina years.

Trends found in the data collected from the official observation sites at Colorado Springs, Pueblo and Alamosa are more varied, with some La Nina Winters seeing over 200 percent of normal snowfall while other years barely received 20 percent of normal snowfall. However, a general trend of at or below average snowfall during La Nina winters can be observed in the data, especially across the eastern Colorado Plains.

In summary, south central and southeast Colorado has a slight tilt to warmer than normal temperatures for the winter months of December 2011 through February 2012, with most of the area leaning towards equal chances of seeing above, below or near normal precipitation; save slightly higher chances of above normal precipitation across the northern mountains and slightly higher chances of below normal precipitation for extreme southeastern Colorado. Trends in the data above also suggest leaning towards a higher percentage of above seasonal snowfall across the upper Arkansas River basin. Trends in the data would also support at or below normal snowfall for the Upper Rio Grande and San Juan River basins along with better chances of below average snowfall across the eastern mountains and plains. However, there are other climate regimes which are less predictable in longer time scales, such as the Arctic Oscillation, which can generate strong shifts in the climate patterns that could lead to much different results than the above trends would suggest. In general, we will still see snow and cold temperatures this winter; however if the current La Nina persists, the frequency of precipitating storms may be decreased, especially across the eastern mountains and plains. This does not bode well for the ongoing drought across the region.